



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/583,183	03/12/2007	Maurice Morency	2003390-0031	8998
24280	7590	03/23/2009	EXAMINER	
CHOATE, HALL & STEWART LLP TWO INTERNATIONAL PLACE BOSTON, MA 02110				TAKEUCHI, YOSHITOSHI
ART UNIT		PAPER NUMBER		
1793				
			NOTIFICATION DATE	
			DELIVERY MODE	
			03/23/2009	
			ELECTRONIC	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

[patentdocket@choate.com](mailto:patentdocket@choate.com)

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/583,183	MORENCY ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	YOSHITOSHI TAKEUCHI	1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on December 16, 2008.
- 2a) This action is **FINAL**.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-21, 31-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-21, 31-33 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 16 June 2006 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ .                                    |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ .  | 6) <input type="checkbox"/> Other: _____ .                        |

## **DETAILED ACTION**

1. Claims 1-21 and 31-33 are presented for examination and claims 31-33 are newly added.
2. The objection to claims 13 and 19 for informalities is withdrawn in view of the Applicant's amendments to claims 13 and 19
3. The rejection of claims 12-15 and 19-20 under 35 U.S.C. § 112 second paragraph as being indefinite due to the lack of clarity is withdrawn in view of the Applicant's arguments.

### ***Claim Rejections - 35 USC § 103***

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
5. Claims **1-4, 7-10** and **16**, are rejected under 35 U.S.C. 103(a) as being obvious over an article by Jebrak et al. (Michel Jebrak, Maurice Morency & Denise Fontaine, Characterization of Steel Dust from the Sorel-Tracy Region and Technologies for their Treatment, Centre de Recherche en Environnement (1993)) for the same reasons as previously presented in the prior Office action.
6. Claims **5** and **6** are rejected under 35 U.S.C. 103(a) as being obvious over Jebrak et al. (Michel Jebrak, Maurice Morency & Denise Fontaine, Characterization of Steel Dust from the Sorel-Tracy Region and Technologies for their Treatment, Centre de Recherche en Environnement (1993)), in view of Itoh et al. (F. Itoh, M. Satou and Y. Yamazaki, Anomalous Increase Of Coercivity In Iron Oxide Powder Coated With Sodium Polyphosphate, Vol. MAG-13, No. 5, IEEE Transactions on Magnetics, p.1385 (1977)) for the same reasons as previously presented in the prior Office action.

7. Claims 11-15 and 17-21 are rejected under 35 U.S.C. 103(a) as being obvious over Jebrak et al. (Michel Jebrak, Maurice Morency & Denise Fontaine, Characterization of Steel Dust from the Sorel-Tracy Region and Technologies for their Treatment, Centre de Recherche en Environnement (1993)), in view of Hitzrot, Jr. (US 4,190,422) (Hereafter the ““422 patent””) for the same reasons as previously presented in the prior Office action.

8. Newly added claims 31 and 32 are rejected under 35 U.S.C. 103(a) as being obvious over Jebrak et al. (Michel Jebrak, Maurice Morency & Denise Fontaine, Characterization of Steel Dust from the Sorel-Tracy Region and Technologies for their Treatment, Centre de Recherche en Environnement (1993)), in view of Itoh et al. (F. Itoh, M. Satou and Y. Yamazaki, Anomalous Increase Of Coercivity In Iron Oxide Powder Coated With Sodium Polyphosphate, Vol. MAG-13, No. 5, IEEE Transactions on Magnetics, p.1385 (1977)).

a. Regarding claim 31, Jebrak in view of Itoh teaches the method of claim 6, wherein Jebrak teaches magnetically separating the slurry into a first fraction composed essentially of ferrite, which intrinsically has brown coloring, and a second fraction composed essentially of magnetite, which intrinsically has a black coloration, the first fraction being less magnetic than the second fraction. (Figure 8.2 and page 13, paragraph 7, Magnetic separation of ferrite from magnetite, where pigment is understood to be a substance capable of being used for adding a characteristic color, such as brown or black).

b. Regarding claim 32, Jebrak in view of Itoh teaches the method of claim 31, wherein Jebrak teaches the use of a magnetic field using 1,000 gauss, but does not teach the use of an electric field in the range of 400 to 700 gauss. However, absent a showing

of unexpected results, it would have been obvious to one skilled in the art at the time of the invention to use a magnetic field in the range of 400 to 700 gauss, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involve only routine skill in the art. In re Aller, 220 F.2d 454 (CCPA 1955).

9. Newly added claim 33 is rejected under 35 U.S.C. 103(a) as being obvious over Jebrak et al. (Michel Jebrak, Maurice Morency & Denise Fontaine, Characterization of Steel Dust from the Sorel-Tracy Region and Technologies for their Treatment, Centre de Recherche en Environnement (1993)), in view of Itoh et al. (F. Itoh, M. Satou and Y. Yamazaki, Anomalous Increase Of Coercivity In Iron Oxide Powder Coated With Sodium Polyphosphate, Vol. MAG-13, No. 5, IEEE Transactions on Magnetics, p.1385 (1977)) and further in view of Hitzrot, Jr. (US 4,190,422) (Hereafter the “‘422 patent”).

Jebrak in view of Itoh teaches the method of claim 32, wherein Jebrak teaches treating particles with a solvent, to obtain a leached slurry (Figure 8.4) and filtering said leached slurry into a solid fraction (Figure 8.4, “dry filtrate”) that contains ferrite pigments (pigments from page 21, paragraph 4) and a liquid fraction (Figure 8.4, “filtering liquid”). Jebrak does not specify removing particles having a grain size of 20 um or more or drying said solid fraction.

The ‘422 patent teaches sieving particles prior to wet grinding to ensure only particles of certain sizes will be treated, and the ‘422 patent also teaches drying the particles after wet grinding. (Abstract and Figure 1). The ‘422 patent teaches this waste product has useful commercial uses, such as an abrasive for use in machine or manual blast cleaning (column 1, lines 60-64).

It would have been obvious to a person of ordinary skill at the time of the invention to apply the step of wet grinding and then drying the ferrite and magnetite particles, as disclosed by Hitzrot, Jr. ('422), in the method of Jebrak, in order to prepare them for further sieving, as disclosed by Hitzrot, Jr. ('422) since Hitzrot, Jr. ('422) teaches if the steel mill waste particles are purified and separated by grade, the waste product can have useful commercial uses (column 1, lines 60-64).

Absent a showing of unexpected results, it would have been obvious to one skilled in the art at the time of the invention to filter out particles having a grain size of 20 um or more, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involve only routine skill in the art. In re Aller, 220 F.2d 454 (CCPA 1955).

***Response to Arguments***

10. Applicant's arguments filed January 23, 2009 have been fully considered but they are not persuasive.

11. Regarding the 35 U.S.C. § 103 rejections of claims 1-4, 7-10 and 16, the applicant makes three arguments as follows:

- a. First the applicant argues, the terms "dispersant" and "deflocculant" encompass "such a vast number of possible chemical classes and compounds that a person skilled in the art would not have been taught, suggested, or motivated to use an anionic surfactant in particular." (p. 9, emphasis in the response to Office action)

In response, "anionic surfactants" are well known to be used in deflocculants, such that a person skilled in the art would have likely considered using an anionic

surfactant. For example, United States patent 3,625,857 teaches a dispersant using an anionic surfactant (abstract).

b. Second, the applicant argues Jebrak teaches away from using anionic surfactants.

In response, Jebrak does not limit itself to merely methanol. If it did, it would not have used the much broader term, “dispersant.” Moreover, the examiner respectfully refers to page 33, where Jebrak teaches a broader meaning for dispersant, an “appropriate dispersant,” And an appropriate dispersant would include anionic surfactants (see paragraph 11(a) *supra*).

c. Third, the applicant argues the use of an anionic surfactant enables improved effects in dispersing ferrite particles. Please refer to the examiner’s response in paragraph 11(a) *supra*.

12. Regarding the 35 U.S.C. § 103 rejections of claims 5 and 6, the applicant argues the rejections are improper because Itoh does not teach or suggest sodium metaphosphate can be used as a dispersant or deflocculant in the method of Jebrak.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See In re Fine, 837 F.2d 1071 (Fed. Cir. 1988) and In re Jones, 958 F.2d 347 (Fed. Cir. 1992). In this case, Jebrak teaches the use of a dispersant as a means of improving the separation of magnetite and ferrite particles. Itoh teaches the addition of sodium metaphosphate to iron oxide particles keeps the particles separated. As a

result, it would have been obvious to a person of ordinary skill at the time of the invention to use sodium metaphosphate, as taught by Itoh, as a dispersant in the method taught by Jebrak, because they both seek the same result (i.e., separation of the iron oxide particles).

13. Regarding the 35 U.S.C. § 103 rejections of claims **11-15** and **17-21**, the applicant argues the rejections are improper because the combination of Jebrak and Hitzrot is allegedly improper. The examiner respectfully requests the applicant to refer to the prior discussions *supra*.

***Conclusion***

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YOSHITOSHI TAKEUCHI whose telephone number is (571) 270-5828. The examiner can normally be reached on Monday-Thursday 9:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/  
Supervisory Patent Examiner, Art Unit  
1793

/YOSHITOSHI TAKEUCHI/  
Examiner, Art Unit 1793